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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,423	03/25/2004	Kazuhito Kishi	251024US2	6954
22850	7590	03/30/2006	EXAMINER	
OBLOK, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			ROTH, LAURA K	
			ART UNIT	PAPER NUMBER
			2852	

DATE MAILED: 03/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/808,423	Applicant(s) KISHI ET AL.	
	Examiner Laura K. Roth	Art Unit 2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10 and 13-15 is/are rejected.
- 7) ☒ Claim(s) 9, 11 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/2/05-2/16/06</u> . | 6) <input type="checkbox"/> Other: _____ |

Drawings

The drawings were received on 30 January 2006. These drawings are accepted.

Claim Objections

Claims 1 and 14 are objected to because of the following informalities:

Claims 1 and 14 recite the limitation "the temperature detection part" in line 8 (cl.1), and lines 7-8 (cl.14). There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 5-8, 10, 13, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujita et al. (US Pub No. 2002/0043523).

Regarding claim 5, Fujita et al. (US Pub No. 2002/0043523) teach a fixing device (fig.31) for fixing a toner on a sheet, comprising: at least one electricity storage device (fig.39, #18); a heat generation part (fig.39, #3) generating heat by using electric power supplied from the at least one electricity storage device; a fixing member (fig.31, #1) heating the toner on the sheet to fix the toner on the sheet, said fixing member heated by the heat generation part (fig.31, #3); and a power control part (fig.39; #13) configured

to control the supply of electric power from at least one of an external power source and the at least one electricity storage device to the heat generation part (para.0176).

Regarding claim 6, Fujita et al. (US Pub No. 2002/0043523) teach the aspects of claim 5 as well as teaching that the at least one electricity storage device comprises a capacitor (fig.39, #18; see also para.0176,ln.5-6).

Regarding claim 7, Fujita et al. (US Pub No. 2002/0043523) teach all of the limitations of claim 5 as well as teaching that the power control part controls the supply of electric power from not the external power source but the at least one electricity storage device to the heat generation part at a start time for supplying power thereto (para.0176, ln.6-10).

Regarding claim 8, Fujita et al. (US Pub No. 2002/0043523) teach the limitations of claim 5 and further teach an embodiment wherein the power control part, when the unheated fixing member is heated to a toner fixable temperature, supplies electric power from not the external power source but from the at least one electricity storage device to the heat generation part (para.0176, ln.6-10).

Regarding claim 10, Fujita et al. (US Pub No. 2002/0043523) teach the limitations of the fixing device of claim 5 and further teach that the power control part comprises: a selection part alternatively selecting one of a first mode and a second mode, said first mode in which electric power is supplied from not the external power source but from the at least one electricity storage device to the heat generation part, said second mode in which electric power is supplied from not the at least one electricity storage device but from the external power source to the heat generation part. In

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paragraph 0176, lines 6-17, two modes, warm-up and after warm-up, are described wherein in the warm-up mode the capacitor feeds the heat generation part and in the after warm-up mode the external power source is connected to the heat generation part.

Regarding claim 13, Fujita et al. (US Pub No. 2002/0043523) teach an image forming apparatus, comprising: the fixing device as claimed in claim 5, wherein the sheet on which a toner image is formed in accordance with an electrophotographic method is carried to the fixing device (see illustrated paper path in fig.52).

Regarding claim 15, Fujita et al. (US Pub No. 2002/0043523) teach a fixing device (fig.31) for fixing a toner on a sheet, comprising: at least one electricity storage device (fig.39, #18); a heat generation part (fig.39, #3) configured to generate heat by using electric power supplied from the at least one electricity storage device; a fixing member configured to heat the toner on the sheet to fix the toner on the sheet (fig.31, #1), said fixing member heated by the heat generation part (fig.31, #3); and means for controlling the supply of electric power from at least one of an external power source and the at least one electricity storage device to the heat generation part (fig.39; #13 and #15; para.0176).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita et al. (US Pub No. 2002/0043523) in view of Kishi et al. (JP Pub. 2003-297526).

Regarding claim 1, Fujita et al. (US Pub No. 2002/0043523) teach a heating device, comprising: a heating part (fig.5, #2) including at least one heat generation part generating heat (fig.5, #2a&2b); an electricity storage device (fig.5, #4) supplying electric power at a variable output voltage to the heating part (fig.5, circuit formed between #4 and #2b), said electricity storage device including at least one chargeable-dischargeable capacitor (fig.5, see capacitor in item #4); a control part (fig.5, #8) configured to control the output voltage of the electricity storage device by setting the variable output voltage, when the temperature detected by the temperature detection part is higher than or equal to a predefined temperature, to one of a plurality of values such that said voltage of the capacitor is lower than or equal to a maximum voltage of the capacitor (para.0076, ln.8-18; by the nature of a capacitor, the voltage at all times must be set at a voltage lower than or equal to the maximum voltage of that capacitor); and a temperature detection part (fig.12, #5) detecting a temperature of a portion

heated by the heat generation part (fig.12, see relation between #5 & #1), wherein the at least one heat generation part generates heat by using electric power supplied from the electricity storage device (para.0076, ln.5-8).

Regarding claim 2, Fujita et al. (US Pub No. 2002/0043523) teach a fixing device for fixing an image on a recording medium (fig.12, #1 &2), comprising: the heating device claimed in claim 1; and a fixing part heated by the at least one heat generation part (fig.12, #1, with respect to #3 & 4), wherein the recording medium passes in contact with or near the fixing part (para.0090, ln.10-14).

Regarding claim 3, Fujita et al. (US Pub No. 2002/0043523) teach an image forming apparatus (fig.17), comprising: a fixing device configured to fix an image on a recording medium (fig.17, #116), and including, the heating device claimed in claim 1, and a fixing part heated by the at least one heat generation part (fig.12, #1, with respect to #3 & 4), wherein the recording medium passes in contact with or near the fixing part (para.0090, ln.10-14), wherein the temperature detection part is disposed in an interior of the image forming apparatus (if the temperature detection part fig.12, #5 is disposed next to the fixing roller, #1, then by default it must be disposed in the interior of the apparatus of fig.17, since #1 is also disposed in the interior), and when a temperature of the interior is higher than or equal to a predefined temperature, the control part regulates the voltage of the capacitor such that said voltage of the capacitor is lower than or equal to the maximum voltage of the capacitor (para.0076, ln.8-18; by the nature of a capacitor, the voltage at all times must be set at a voltage lower than or equal to the maximum voltage of that capacitor).

Regarding claim 4, Fujita et al. (US Pub No. 2002/0043523) teach an image forming apparatus (fig.17), comprising: a fixing device configured to fix an image on a recording medium (fig.17, #116), and including a heating device including, a heating part (fig.5, #2) including at least one heat generation part generating heat (fig.5, #2a&2b), an electricity storage device supplying electric power (fig.5, #4) at an output voltage to the heating part (fig.5, circuit formed between #4 and #2b), said electricity storage device having at least one chargeable-dischargeable capacitor (fig.5, see capacitor in item #4), a mode detection part (fig.1, #10 CPU) configured to detect an operational mode of the image forming apparatus, a control part configured to control the output voltage of the electricity storage device by regulating a voltage of the capacitor such that said voltage of the capacitor is lower than or equal to a maximum voltage of the capacitor when the operational mode detected by the mode detection part is a save mode (para.0069, ln.1-10), and wherein the at least one heat generation part generates heat by using electric power supplied from the electricity storage device (para.0076, ln.5-8), and a fixing part heated by the at least one heat generation part (fig.12, #1, with respect to #3 & 4), wherein the recording medium passes in contact with or near the fixing part (para.0090, ln.10-14).

Regarding claim 14, Fujita et al. (US Pub No. 2002/0043523) teach a heating device, comprising: a heating part (fig.5, #2) including at least one heat generation part configured to generate heat (fig.5, #2a&2b); an electricity storage device (fig.5, #4) configured to supply an output voltage to the heating part (fig.5, circuit formed between #4 and #2b), said electricity storage device including at least one chargeable

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dischargeable capacitor (fig.5, see capacitor in item #4); means for controlling (fig.5, #8) the output voltage of the electricity storage, when the temperature detected by the temperature detection part is higher than or equal to a predefined temperature, to one of a plurality of values such that said voltage of the capacitor is lower than or equal to a maximum voltage of the capacitor (para.0076, ln.8-18; by the nature of a capacitor, the voltage at all times must be set at a voltage lower than or equal to the maximum voltage of that capacitor); and a temperature detection part (fig.12, #5) configured to detect a temperature of a portion heated by the heat generation part (fig.12, see relation between #5 & #1), wherein the at least one heat generation part generates heat by using electric power supplied from the electricity storage device (para.0076, ln.5-8).

However, Fujita et al. (US Pub No. 2002/0043523) fail to disclose a control part configured to control a variable output voltage.

Regarding claims 1, 2, and 3, Kishi et al. (JP Pub. 2003-297526) teach a heating device with a control part (drawing 3, #19) configured to control the variable output voltage of the electricity storage device by setting the variable output voltage, when the temperature detected by the temperature detection part is higher than or equal to a predefined temperature, to one of a plurality of values such that said voltage of the capacitor is lower than or equal to a maximum voltage of the capacitor (para.0083-para.0085; also, by the nature of a capacitor, the voltage at all times must be set at a voltage lower than or equal to the maximum voltage of that capacitor); and a temperature detection part detecting a temperature of a portion heated by the heat generation part (drawing 3, #18), wherein the at least one heat generation part

generates heat by using electric power supplied from the electricity storage device (drawing 3, see power supply circuit for #11b).

Regarding claim 4, Kishi et al. (JP Pub. 2003-297526) teach a heating device with a control part configured to control the variable output voltage of the electricity storage device by regulating a voltage of the capacitor such that said voltage of the capacitor is lower than or equal to a maximum voltage of the capacitor when the operational mode is a save mode (para.0080+).

Regarding claim 14, Kishi et al. (JP Pub. 2003-297526) teach a heating device with means for controlling the variable output voltage of the electricity storage device (drawing 3, #19) by setting the variable output voltage, when the temperature detected by the temperature detection part is higher than or equal to a predefined temperature, to one of a plurality of values such that said voltage of the capacitor is lower than or equal to a maximum voltage of the capacitor (para.0083-para.0085; also, by the nature of a capacitor, the voltage at all times must be set at a voltage lower than or equal to the maximum voltage of that capacitor); and a temperature detection part configured to detect a temperature of a portion heated by the heat generation part (drawing 3, #18), wherein the at least one heat generation part generates heat by using electric power supplied from the electricity storage device (drawing 3, see power supply circuit for #11b).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the heating device of Fujita et al. (US Pub No. 2002/0043523) with the variable output controls of Kishi et al. (JP Pub. 2003-297526) increase image quality

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by decreasing non-uniformity due to temperature fluctuations of the heating device (para.0085, ln.6-8).

Allowable Subject Matter

Claims 9, 11, and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Prior art does not disclose or suggest the claimed situation “wherein the power control part, when a temperature of the fixing member drops..., supplies electric power from not the external power source but the electricity storage device” of claim 9, the claimed “second mode in which electric power is supplied from both of the electricity storage device and the external power source” of claim 11 and the claimed “plurality of heaters... at least one of [which] is connected to the electricity storage device and the external power source” of claim 12 in combination with the remaining claim elements as set forth in claims 9, 11, and 12.

Response to Arguments

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments with regards to claim 5, filed 30 January 2006, have been fully considered but they are not persuasive. Applicant argues that the embodiment disclosed in figure 39 of Fujita et al. fails to suggest a power control part configured to control power from at least one external power source and at least one electricity storage device to the heat generation part and that the external power source of Fujita et al. is not controlled by CPU 13. The Office would like to call applicant's attention to para.0176 in which the CPU 13 controls the switch to supply power from the electricity storage device and also to supply power from the external power source.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Nakafuji et al. (US 6,847,792) teaches a heating device for a fixing apparatus that makes use of an electricity storage device.
- Kishi et al. (US 7,002,112) is the US patent of the Japanese reference used herein.
- Sato et al. (US Pub. 2005/0220474) teach a heating device for an image forming apparatus using an electricity storage device and a control means therefor, but it was filed after the current application.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Contact Information

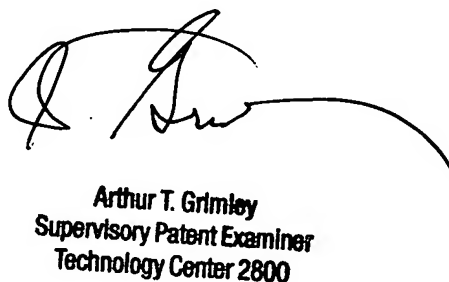
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura K. Roth whose telephone number is (571)272-2154. The examiner can normally be reached on Monday-Friday, 7:30 am to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur T. Grimley can be reached on (571)272-2136. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LKR
3/22/2006



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